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**APPLICATION  
FOR  
UNITED STATES LETTERS PATENT**

**TITLE: DRAG AND DROP TECHNOLOGY FOR REMOTE  
CONTROL TOOL**

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DRAG AND DROP TECHNOLOGY FOR REMOTE CONTROL TOOL

Background

This invention relates generally to remote control tools that allow network administrators to make adjustments 5 to processor-based systems from a remote location.

Remote control tools enable correction of items on a networked processor-based system from a remote location.

The remote control tool enables remote client computers in a network to be accessed to accomplish various network

10 administration tasks including transferring updated files and chatting with users to learn about their computer related problems. An obvious advantage of a remote control tool is that it enables a network administrator to solve some of the client computer problems without the need to 15 physically visit the client computer.

One common task that must be implemented by network administrators is to provide various files, objects, and software modules to client computers on the network.

Generally this requires a visit to the user's computer or 20 relatively complicated process wherein the network administrator must find the file in a directory, copy the file, and transfer the file to the client computer.

Thus there is need for better ways to transfer objects to networked computers using remote control tools.

Brief Description of the Drawings

Fig. 1 is a schematic depiction of a network in accordance with one embodiment to the present invention;

5 Fig. 2 is a depiction of a remote control tool in accordance with one embodiment to the present invention;

Fig. 3 is a graphical user interface in accordance with one embodiment of the present invention;

Fig. 4 is the graphical user interface of Fig. 3 after it has been modified; and

10 Fig. 5 is a block depiction of the local system shown in Fig. 1 in accordance with one embodiment to the present invention.

Detailed Description

15 A network 12 may encompass a local or host system 14 that may be operated by a network administrator and a plurality of remote systems including the system 16. The systems 14 and 16 may be processor-based systems such as desktop computers as one example. The network 12 may be a local area network (LAN), a metropolitan area network (MAN) 20 or for that matter any network.

25 The local system 14 may include a remote control tool 18 that enables the local system 14 to be utilized by a network administrator to make adjustments on remote systems 16 without the need to actually physically access the systems 16. This may reduce the amount of time that is needed to make changes on a large number of remote systems

16 and may facilitate communications between the local system 14 used by the network administrator and the network users.

As shown in Fig. 2, the remote control tool 18 may 5 include a drag and drop feature. The dragging of an object is detected as indicated in block 20. The object being dragged may be an image in memory, a block of text or a file to mention a few examples. The object may be dragged by simply mouse clicking on a depiction of the object on a 10 graphical user interface associated with the local system 14. By maintaining the mouse button in the clicked down position, the object may be "dragged" across the graphical user interface.

When dragging is detected, a check at diamond 22 15 determines where the object being dragged is located in the system file directory. If the object is on the remote system 16, the location of the object in the system file directory on the remote system 16 is identified, as indicated in block 24. This generally involves accessing 20 the directory or file structure of the remote system 16, using technology that is part of the remote control tool 18. Similarly, if the dragged object is on the local system 14, its location within the file system or directory system may be determined in block 26.

Once the location of the dragged object within the 25 file or directory has been determined, the flow waits for

the object to be dropped or the operation to be canceled as indicated in block 28. If the object is dropped as determined in diamond 30, the object is simply copied from the source location to the destination location, all as indicated in block 32. The destination location is indicated by the location where the object was dropped. If the object is not dropped after a period of time, then the operation has been canceled and the flow may end.

Referring to Figs. 3 and 4, a graphical user interface for the remote control tool 18 may include a window that shows a number of objects 56. The objects 56 may be organized as local objects 52 indicating that the objects are on the local system 14 or remote objects 54 indicating that the objects are on the remote system 16. A cursor 58 may be positioned over an object 56. The object may be clicked on and a copy of the file (or the file itself) may be dragged from the local object interface 52 to the remote object interface 54. If the object is then dropped in the remote object interface 54, as indicated in Fig. 4, a copy of the object may be automatically transferred from the local system 14 to the remote system 54.

While a simplified directory structure is shown in Figs. 3 and 4, more elaborate cascaded or tree-type directories may be provided instead. In such case, the network administrator may actually place the file in a graphical representation of a desired location, such as a

particular hard disk drive or other storage area, on one or more of the systems 14 or 16.

For example, the network administrator may provide a copy of an update file from the local object interface 52 to the remote object interface 54. Conversely, a copy of an object on the remote system 16 may be transferred to a local system 14 so that the network administrator can determine why that object is not operating correctly.

With some embodiments of the present invention, objects may be readily transferred between computers, by the use of a remote control tool 18. In some embodiments, it is possible to replace the current file transfer method available in a remote control tool by making the file transfer functionality more easy to use. For example, to transfer a file from a local system 14 to a remote system 16, using the current remote control tools, one may need to operate an explorer type directory structure, get to the source file in the destination directory, and then transfer the file. With some embodiments of the present invention, one can transfer files or other objects simply by moving them between windows of different computers in any direction.

Referring finally to Fig. 5, the local system 14 used by the network administrator may include a processor 34 coupled to an interface 36. In the embodiment illustrated in Fig. 5, the interface 36 may be coupled to a display 40

that displays the graphical user interface 50, and the system memory 38.

The interface 36 may also be coupled to a bus 42. Coupled to the bus 42 may be a network interface card 44 to 5 connect to the network 12 and another interface 46. In one embodiment, the interface 46 may be connectable to a hard disk drive 48 which may store the remote control tool 18. Of course the architecture shown in Fig. 5 is only an example and any of a variety of network and computer 10 architectures may be utilized in other embodiments of the present invention.

While the present invention has been described with respect to a limited number of embodiments, those skilled in the art will appreciate numerous modifications and 15 variations therefrom. It is intended that the appended claims cover all such modifications and variations as fall within the true spirit and scope of this present invention.